

REMARKS

Claims 6-20 are pending, with claims 6-10 under current examination, and claims 11-20 withdrawn from consideration as drawn to a nonelected invention.

In the Office Action, the Examiner rejected claims 6-10 under 35 U.S.C. § 103(a) as unpatentable over Gotoh et al. (U.S. Patent No. 5,650,041) ("Gotoh") in view of Chapman (U.S. Patent No. 5,976,769) ("Chapman").

Applicants traverse the rejection of independent claim 6 and claims 7-10 depending from claim 6, under 35 U.S.C. § 103(a) as being unpatentable over Gotoh in view of Chapman.

Applicants respectfully disagree with the Examiner's arguments and conclusions. A *prima facie* case of obviousness has not been established.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). M.P.E.P. § 2142, 8th Ed., Rev. 4 (October 2005), p. 2100-134.

A *prima facie* case of obviousness has not been established because, among other things, neither Gotoh nor Chapman, nor their combination, teaches or suggests each and every element of Applicants' independent claim 6.

Independent claim 6 calls for

...forming a mask layer on the first mask pattern such that an exposed portion of the soluble thin film is covered with the mask layer;

etching back the mask layer such that an upper face of the first mask pattern is exposed and the portion of the mask layer covering the exposed portion of the soluble thin film remains to form a second mask pattern;

removing the first mask pattern;
etching the soluble thin film and the film to be processed using the second mask pattern as a mask; and
dissolving the etched soluble thin film in the dissolving liquid, thereby lifting off the second mask pattern from the film to be processed.

Gotoh and Chapman fail to teach or suggest at least these elements of claim 6. First, Gotoh's intermediate mask layer 5 and upper resist mask layer 6 *are not patterned*. See, for example, Gotoh's Fig. 2(a). Only the photoresist layer 7 is patterned in Fig. 2(a). As apparent from the description in Gotoh at col. 4, lines 17 to 26 and Figs. 2(a)-2(c), the patterned photoresist layer 7 is a mask for patterning upper resist mask layer 6, and the patterned upper resist mask is then a mask for patterning intermediate mask layer 5. Therefore, if patterned upper resist mask layer 6 or patterned intermediate mask layer 5 corresponds to the first mask pattern in claim 6 of the present application as the Examiner alleged (Office Action, p. 2), Gotoh does not teach or suggest "forming a mask layer on the first mask pattern such that an exposed portion of the soluble thin film is covered with the mask layer" (claim 6).

Second, since Gotoh does not teach or suggest the "mask layer" recited in claim 6, Gotoh also does not teach or suggest "etching back the mask layer such that an upper face of the first mask pattern is exposed and the portion of the mask layer covering the exposed portion of the soluble thin film remains to form a second mask pattern" (claim 6).

Third, since Gotoh does not teach or suggest the "second mask pattern" recited in claim 6, Gotoh also does not teach or suggest "etching the soluble thin film and the film to be processed using the second mask pattern as a mask" (claim 6).

Finally, the Examiner admitted that Gotoh “fails to disclose a step wherein dissolving the etched soluble thin film in the dissolving liquid, thereby lifting off the second mask pattern from the film to be processed” (Office Action, p. 3). However, the Examiner applied Chapman in an attempt to cure the deficiencies of Gotoh.

The Examiner alleged Chapman “[Figs.9a-c] discloses wherein dissolving the etched soluble thin film [917,918] in the dissolving liquid, thereby lifting off the second mask pattern from the film [906] to be processed [Col.6, lines 29-39]” (Office Action, p. 3). Even assuming, for the sake of argument, that Chapman teaches dissolving a thin film and photoresist lift off in col. 6, lines 29-39, Chapman still fails to cure the remaining deficiencies of Gotoh just addressed. That is, Chapman fails to teach “forming a mask layer on the first mask pattern such that an exposed portion of the soluble thin film is covered with the mask layer,” “etching back the mask layer such that an upper face of the first mask pattern is exposed and the portion of the mask layer covering the exposed portion of the soluble thin film remains to form a second mask pattern,” the “second mask pattern,” and “etching the soluble thin film and the film to be processed using the second mask pattern as a mask,” as recited in claim 6 and required by claims 7-10. For at least this reason, the addition of Chapman fails to establish a *prima facie* case of obviousness.

Therefore, *prima facie* obviousness has not been established because Gotoh and Chapman do not teach or suggest each and every element of independent claim 6. Independent claim 6 is therefore allowable, for the reasons argued above, and dependent claims 7-10 are also allowable at least by virtue of their dependence from allowable base claim 6. Therefore, Applicants request that the improper 35 U.S.C. § 103(a) rejection be withdrawn.

Conclusion:

In view of the foregoing, Applicants request reconsideration of the application and withdrawal of the rejection. Pending claims 6-10 are in condition for allowance, and Applicants request a favorable action.

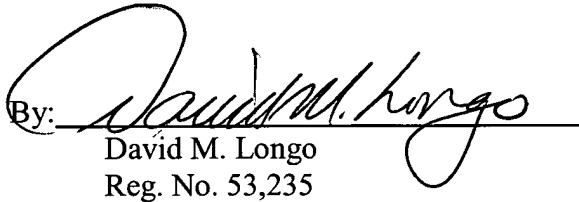
If there are any remaining issues or misunderstandings, Applicants request the Examiner telephone the undersigned representative to discuss them.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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